Parliament. "We have," the King said, "to create a better Britain, to bestow more care on the health and well-being of the people, and to ameliorate further the conditions of labour. May not the losses of war be repaired by a better organisation of industry and by avoiding the waste which industrial disputes involve? Cannot a spirit of reciprocal trust and co-ordination of effort be diffused among all classes? May we not, by raising the standard of education, turn to fuller account the natural aptitudes of our people and open wider the sources of intellectual enjoyment?"

The labour aspect of the matter was touched upon by the Minister of Reconstruction in the peroration of the statesmanlike pronouncement in which he explained to the House of Commons and the country the plans of the Government for the demobilisation of the Army, the re-settlement of officers and men in civil life, and the re-establishment of industry on a normal basis. Lengthy as the statement was, Dr. Addison could only deal with broad general principles, leaving the details to be worked out by the various administrative bodies which are charged with the duty of demobilisation and re-settlement. Considering the suddenness of the chief enemy's collapse, the Minister is to be congratulated on the comprehensiveness of his survey, and on the thoroughness with which the main features of the problem have been thought out in the comparatively short time that his department has been in existence. It says much for our business ability as a people, and for our powers of organisation in a national crisis, that a scheme so elaborate and so far-reaching should have been launched so promptly when the need for it had arrived.

We are, however, only on the very fringe of this great problem. There is still much to do before it is finally solved. However expeditiously the work of demobilisation and re-settlement may be done, the business will necessarily occupy considerable time. It will doubtless tax the energies and the patience of all concerned, and we must be prepared for the "grousing" which is a national characteristic, and not infrequently at times when there is really the least occasion for it. It may be pardoned, however, as one sign of reaction from the intense strain which the nation has suffered during the long and weary years which are past. When a patient begins to grumble, the tactful nurse is assured that the crisis is well past, and that renewed vigour has set in. And this observation reminds us that in the scheme of re-settlement Dr. Addison made no reference to the special case of the medical men. During the four years of war the country has suffered no small amount of inconvenience owing to the calling up of large numbers of medical practitioners for service in the Army. This was inevitable, and as it was necessary the deprivation was borne with patience and resignation. To what extent the national health has suffered it is impossible to say, but there is good reason to believe that the great mortality from the recent epidemic of "influenza" might have been largely obviated had medical advice and skill been more readily available. It is notorious that in some districts medical men were utterly unable to cope with the outbreak, owing to the fewness of their numbers. Its virulence would appear to be declining, but it is only scotched, not killed, and with much of the winter still before us, with food and fuel still short, and with the consequent lowering of the general vitality, it is a paramount necessity that the medical men should be released and re-settled as promptly as possible.

AN AMERICAN CHEMICAL DIRECTORY.

Annual Chemical Directory of the United States. Second edition, 1918. Pp. 534. (Baltimore, Md.: Williams and Wilkins Co., 1918.)

THE present issue of this work, of which the first edition appeared in 1917, differs only in certain minor details from the plan and arrangement of its predecessor. Its contents are grouped under nine main divisions or chapters. Chap. i. contains a list, in alphabetical order, of all chemical substances, made or imported, necessary for laboratory, technical, and industrial purposes, with the names of manufacturers and dealers placed geographically, first by States, and then by cities, and grouped alphabetically. The retailers, dealers, and agents are distinguished, so far as possible, from the manufacturers by an asterisk.

Chap. ii. consists of an alphabetical arrangement of the names of manufacturers and dealers under the alphabetical order of the States and their cities. Chap. iii. gives a list of chemical and chemical engineering apparatus, mechanical equipment, and machinery used in chemical works, arranged alphabetically and in general accordance with the method adopted in chap. i. as regards chemical products.

Chap. iv. consists of an alphabetical list of manufacturers and dealers in such apparatus and machinery, arranged on lines similar to those of chap. ii. Chap. v. gives the names (1) of American analytical and consulting chemists, and (2) of chemical engineers, listed geographically and grouped alphabetically as in the preceding chapters. Chap. vi. is a list of (1) industrial laboratories, (2) institutional laboratories, (3) Federal and State laboratories, (4) municipal laboratories, and (5) commercial laboratories. Chap. vii. gives the official names, arranged alphabetically, of technical and scientific societies concerned with the study of pure and applied chemistry, both in the United States and abroad. Chap. viii. deals with publications relating to

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chemistry, pure and applied, emanating from the various societies and publishing agencies, and contains a list of the more important books which have appeared in 1917–18. Chap. ix. consists of notes and news of important developments which have occurred since the first edition was published.

On the value of a work of this kind to all engaged in the practical pursuit of chemistry, whether as teacher or technologist, or even as dealer or agent, we have already dwelt in a notice of the first edition, and we expressed a regret that nothing exactly similar to it was to be found in our own country. Under the changed conditions due to the war, and owing to the quickened appreciation of the value of science, both pure and applied, to the national welfare, and to the greater recognition of the importance of co-operation and co-ordination of national effort, it can scarcely be doubted that such a work would be of the greatest service to those concerned in the chemical arts in this country, and would become practically indispensable. That such is the case in America with the present work seems to be obvious from the character of the new edition, in which apparently no pains have been spared in order to render it complete and comprehensive, and as convenient in use as possible.

From the last chapter, on "News and Notes," we extract a few items which are of interest at the present time as serving to show with what energy America is dealing with the conditions arising out of the war. She has largely developed the synthetic ammonia industry. Processes are being worked by the War Department and the Department of Agriculture, and the Air Nitrates Corporation has been officially appointed by the first-named Department to manufacture ammonium nitrate. The New York City Department of Health Laboratories are producing large quantities of antitoxins, and arsphenamine is being manufactured by the Dermatological Research Laboratories in Philadelphia, the Takamine Laboratory in New York, and what was formerly the Farbwerke Höchst Co. of New York City. The supply of hypnotics and anæsthetics of all kinds is no longer under German control.

In 1917 there were seventy concerns in the United States with benzol-recovery plant. The estimated production of benzol in 1917 was 35,000,000 gallons. The Midland Chemical Co., Michigan, is producing large quantities of bromine. Through the efforts of the United States Bureau of Mines and the American Chemical Society a complete detailed census has been taken of more than 15,000 American chemists. A number of American manufacturers of dyes are employing from twenty-five to seventy-five chemists in their research departments. The American dye industry has now invaded the market in European and Allied countries, South America, Canada, Japan, and India. It is estimated that in the early part of 1918 there were more than 150 firms actually producing "anilines" in the United States. The drug and chemical markets quote weekly nearly one hundred "crudes" and "intermediates," and more than two hundred dyestuffs are available in the United States market. The capital invested in the American dyestuff industry is estimated at 250,000,000 dollars, which is much above the amount of the total capital of the seven leading German companies in 1914. Up to the present, American chemists and manufacturers have placed on the market 75 per cent. of the dyestuffs formerly imported, and it is claimed that by the end of 1918 all necessary colours will be manufactured in the country.

When the war broke out in August, 1914, there were only six factories, employing possibly 350 to 400 operatives, manufacturing coal-tar colours, with an approximate production of 3000 tons. American dyestuffs in 1914 depended almost entirely upon the mere assembling of "intermediates" delivered from German sources. The total annual consumption of synthetic colours in 1914 in the United States was about 27,000 tons. To-day there are probably fifty responsible manufacturing establishments producing dyestuffs in America, and the production is well above 35,000 tons, all made from American coal-tar. In the classes of dyes which, if imported, would be dutiable at 30 per cent. *plus* 5 cents a pound, American manufacturers have shown remarkable progress. The production is so far in excess of the home needs that during the fiscal year 1917 American-made dyes were exported to the value of 11,709,287 dollars. Thus the exports exceeded the pre-war imports in total value, although not in tonnage or in the variety of the dyes. With a view to the protection of their interests in the economic war which is bound to follow, the American manufacturers have established a Dyestuff Manufacturers' Association. Other German industries, such as scientific and laboratory glassware and chemical and electrical porcelain, have been assailed in like manner, and America is now independent of imported supplies.

In 1915 the National Exposition of Chemical Industries was organised in order to foster the growth of chemical industries in America. It has now become an institution in the chemical industrial affairs of the country. The expansion of the Exposition is indicative in a measure of the growth of the chemical industries. In 1915 the number of exhibits was eighty-three; in 1916, 188; and in 1917, 323. In 1915 the visiting attendance was 63,000; in 1916, 80,000; and in 1917, 111,514.

Evidence of the astonishing influence of the war in quickening American energy and enterprise is seen in almost every department of chemical activity. At the end of 1917 practically every "intermediate" of importance was being produced in the country; the production of phenol in 1917 was more than double that of 1916. More than 200 plants are making sulphuric acid in the States, and the production of the present year will be 1,500,000 tons greater than in any previous year.

Germany has already had a rude awakening, but she has yet to realise the full measure of the economic ruin which awaits her.

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